

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments filed 11 July 2011 have been fully considered but they are not persuasive. Regarding the rejection set forth in the previous Office Action, Applicant alleges that the cited prior art fails to teach the limitation of **"(c) [t]he AV output device generates, in response to an up-down input operation from a user, a direct command corresponding to the up-down input operation on the basis of the channel identification information stored in advance, and transmits the direct command to the wireless center"** (Remarks at 2, numbering [sic]) because the limitation is not explicitly disclosed in the Uchida reference. See Remarks at 3-4. However, the rejection set forth *infra* and in the previous Office Action is an obviousness-type rejection under 35 USC 103 in view of the combined teachings of Uchida, Trovato, and Hakamada, when considered as a whole. As set forth *infra* and in the previous Office Action, Trovato does explicitly teach converting an up-down channel change request into a direct channel selection command, which command is then transmitted from the channel selection device to the display device. As Uchida teaches that the wireless display apparatus functions as a remote control and comprises a plurality of memory devices, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the remote control functionality of Uchida's display apparatus to comprise the channel lists and determinator taught by Trovato, such a modification being a combination of known elements that would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

The previous Office Action further contained a rejection based on the combined teachings of Miura and Trovato (reiterated *infra*), which states in relevant part:

As Miura teaches that the slaver terminal device receives and transmits control signals from remote control 2A to the master terminal 1, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Miura's slave terminal to comprise the functional blocks of Fig. 3, as taught by Trovato, such a modification being a combination of known elements that would have yielded predictable results to one of ordinary skill in the art at the time of the invention. This would have been desirable as one of ordinary skill in the art at the time of the invention would recognize that performing said channel determination at the wireless device would have reduced processing time and bandwidth. (Non-Final Rejection of 28 April 2011 at 11.)

Applicant's arguments fails to address or acknowledge the combined teachings of Uchida or Miura in view of Trovato or the specific teaching of Trovato cited in the Office Action except to allege, "[b]oth Trovato and Hakamada are also utterly silent about the object that the present invention achieves, that is, to 'shorten a delay time involved in the interval time for exchanging commands (between the wireless center and the AV output device), thereby improving a response to the user's input for up-down channel selection.' Further, neither of Trovato and Hakamada teaches or suggests features (a) to (c)." (Remarks at 4.) The Examiner respectfully disagrees. As to the latter argument, that "neither of Trovato and Hakamada discloses features (a) to (c), the Examiner reiterates the arguments set forth *supra* as well as the rejection set forth in the previous Office Action and maintained *infra*.

In response to applicant's argument that there is no teaching, suggestion, or motivation to combine the references, the examiner recognizes that obviousness may be established by combining or modifying the teachings of the prior art to produce the

claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992), and *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007). In this case, the previous Office Action stated, “[the combination of Uchida and Trovato] would have been desirable as one of ordinary skill in the art at the time of the invention would recognize that performing said channel determination at the wireless device would have reduced processing time and bandwidth.” Non-Final Rejection of 28 April 2011 at 5; see also *id.* at 11 (discussing the combination of Miura and Trovato). The MPEP instructs: “...the focus when making a determination of obviousness should be on what a person of ordinary skill in the pertinent art would have known at the time of the invention, and on what such a person would have reasonably expected to have been able to do in view of that knowledge. This is so regardless of whether the source of that knowledge and ability was documentary prior art, general knowledge in the art, or common sense.” MPEP 2141 (emphasis added). The Examiner maintains that the combinations of Uchida and Trovato as well as that of Miura and Trovato when considered as a whole, set forth in the previous Office Action and maintained *infra*, would have been obvious to one of ordinary skill in the art as a matter of general knowledge in the art and/or common sense. For at least these reasons, the rejections are maintained.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida et al. (US Pat. No.: 6,930,661) and further in view of Trovato et al. (US Pat. No.: 6,445,306) and Hakamada et al. (US Pat. No.: 4,870,492).**

Regarding claim 1, Fig. 1 of Uchida teaches a bi-directional communication system comprising a base apparatus and a display apparatus. Fig. 1 of Uchida teaches the recited wireless center having, “[1] **a tuner section for performing channel selection** [*base apparatus 200 has an antenna 201 and a tuner for receiving and selecting analog television broadcast signals*’ (col. 4/lines 43-44)]” and “[2] **a first transmitting/receiving section for transmitting/receiving broadcast information of a channel selected by the tuner section and other data** [*the base apparatus can compress data, such as a video signal and/or an audio signal from a television program...[which] is formed into a transmission signal and transmitted to the display apparatus 100*’ (col. 4/57-62)].”

As to the recited AV output device, the display apparatus taught by Uchida teaches the recited “[1] **a display section** (Fig. 1, 107; col. 4/63-37), [2] **a channel**

**selection input section for receiving an input operation causing the tuner section to perform channel selection (Fig. 1, CP; col. 5/6-10), [and] [3] a second transmitting/receiving section capable of receiving the broadcast information and transmitting/receiving data wirelessly to/from the first transmitting/receiving section (Fig. 2, 101, 111, 112)."**

Though Uchida teaches that the display apparatus contains ROM, RAM, and EEPROM memory modules 132-134 which can store, *"various processing programs to be executed by the display apparatus 100, predetermined display data for the control panels corresponding to the connected external input apparatuses...[and] various setting parameters"* (col. 6/32-52), Uchida does not explicitly teach that the display apparatus contains the recited **"...[4] a first channel identification information memory section for storing channel identification information being available for identifying a channel selected by the up-down input operation."** Further, while Fig. 5 of Uchida teaches a method by which that the wireless display apparatus converts remote control inputs into corresponding system commands and wirelessly transmits said control signals to the base device, Uchida does not explicitly teach that the command conversion section converts **"the up-down input operation for a channel selection to a direct channel selection command that is transmitted to the wireless center,"** as recited.

In an analogous art, Fig. 3 of Trovato teaches a system comprising a plurality of lists 251-3 identifying programs and their corresponding channels and a channel

determinator 260 that determines what channel to tune in response to a channel up/down input. Specifically, Trovato teaches:

When the user communicates an increment or decrement command 201, by activating, for example, the increment control 101...The channel determinator 280 determines the channel number 281 corresponding to the selected entry and communicates this number to the appliance 150 to effect the selection of this channel...The channel determinator 280 may merely extract a channel number 281 from the entry in the list. Alternatively, if the entry in the list contains a network identifier, such as NBC, CNN, and so on, the channel determinator 280 also includes a transformation table for transforming the network identifier to a channel number 281 for use by the appliance 150. (col.6/40-58)

The lists and transformation table taught by Trovato are equivalent to the recited first channel identification memory and the channel determinator performs the equivalent function of the recited command conversion section. Regarding the limitation that the command conversion section converts an up/down channel selection command to a direct channel selection command, Trovato teaches:

[w]hen the user enters an increment/decrement command 201, the remote control 100 *[comprising said channel determinator]* extracts the next or prior channel number from the selected list and communicates the channel number directly to the channel selector 110, equivalent to the user explicitly entering this channel number on a conventional remote control 100" (col. 7/9-14).

Trovato further teaches, "[a]s would be evident to one of ordinary skill in the art, the functional blocks of FIG. 3 may be located in the channel selector 110, in the remote control 100, or distributed between the channel selector 110 and the remote control 100" (col. 6/59-63). As Uchida teaches that the wireless display apparatus functions as a remote control and comprises a plurality of memory devices, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the

remote control functionality of Uchida's display apparatus to comprise the channel lists and determinator taught by Trovato, such a modification being a combination of known elements that would have yielded predictable results to one of ordinary skill in the art at the time of the invention. This would have been desirable as one of ordinary skill in the art at the time of the invention would recognize that performing said channel determination at the wireless device would have reduced processing time and bandwidth.

As to the limitation that **the channel identification information including skip information which (i) is obtained based on a result of a channel scan performed by the tuner section in accordance with an instruction from a user to perform the channel scan**, though the combined teaching of Uchida and Trovato teach the recited system and first channel identification information, it does not explicitly teach the recited skip information. In an analogous art, Fig. 1 of Hakamada teaches a channel table with a skip flag associated with each channel. Hakamada teaches that *"[t]he auto-programming feature determines which channels are in use and stores skip channel data in a memory so that unused channels are not accessed by the user"* [ABST]. It would have been obvious to one of ordinary skill in the art at the time of the invention that the channel transformation table taught by Trovato and stored in the memory of the wireless display apparatus could be modified to include the skip data taught by Hakamada. This would have been desirable so that the channel determinator would be able to bypass channels that are not in use when converting an up/down channel selection command into a direct channel selection command. The skip channel data

indicating unused channels taught by Hakamada is equivalent to the recited indicating "whether or not a station has been registered for a channel selected by the up-down input operation," as recited. As to the limitation that the scan is performed "**in accordance with an instruction from a user,**" Hakamada explicitly teaches that the channel scan and setting routing of Fig. 3 is performed when the automatic add key on the remote is pressed. Hakamada at col.3/line 43-44.

As to the limitation that the channel identification information (ii) **is indicative of whether or not a station has been registered for each channel, the channel identification information being transmitted to the AV output device from the wireless center**, Fig. 3 of Hakamada teaches a method for performing an automatic channel scan of and setting the corresponding skip flags for all available channels, such that *"the skip flag data SFLG of all the channels are checked, whereby the skip flag data SFLG of selected channels and those on which no television signal is received have their skip flag data SFLG reset to the skip mode (SFLG= '0') and those channels through which a television signal is received are set to '1'"* (col. 3/line 39—col. 4/line 18). As the display apparatus taught by Uchida does not have a tuner, it would have been obvious to one of ordinary skill in the art at the time of the invention that the this channel scan could be conducted by the base unit of Uchida's system and that the channel identification information would be transmitted from the base device to the display device to be stored in the memory **132-4** of the display device.

As to claim 13, the rejection of claim 1 is incorporated herein. Fig. 5 of Uchida teaches the mechanism by which the display device wirelessly transmits control signals



to the base device. As to the first step of [1] **causing the tuner section to perform the channel scan** based on the input operations, Hakamada teaches that the channel scan and setting routing of Fig. 3 is performed when the automatic add key on the remote is pressed. Hakamada at col.3/line 43-44. The step of:

**[2] collecting, based on a result of the channel scan performed by the tuner section, channel identification information including skip information indicative of whether or not a station has been registered for each channel and transmitting the channel identification information to the AV output device wirelessly**

is equivalent to the automatic channel scan taught by Fig. 3 and col. 3/line 39—col. 4/line 18 of Hakamada. As analyzed above, since the wireless display apparatus taught by Uchida does not have a tuner, it would have been obvious to one of ordinary skill in the art at the time of the invention that the this channel scan could be conducted by the base unit of Uchida's system and that the channel identification information would be transmitted from the base device to the display device to be stored in the memory **132-4** of the display device.

As to the third step:

**[3] storing the transmitted channel identification information in the memory section, detecting, responsive to an up-down input operation in the channel selection input section, a channel identified with reference to the channel identification information stored in the memory section, generating a direct channel selection command for selecting the identified channel, transmitting the direct channel selection command to the wireless center side wirelessly and causing the tuner section to directly perform channel selection without having to decode and convert an up-down channel selection command, received by the wireless center from the AV output device and which is not a direct channel selection command, to a direct channel selection command,**

the transformation table comprising channel skip information taught by Trovato and Hakamada which is stored in the memory of the wireless display apparatus of Uchida (as analyzed above) performs the recited storing transmitted channel identification information in the memory. The recited detecting a channel identified with reference to the channel identification information and generating a direct channel selection are performed by the channel determinator of Trovato as cited above w/r/t claim 1.

As to claim 15, the rejection of claim 13 is incorporated herein. Fig. 6 of Uchida teaches the first step of “[1] **wirelessly receiving the input operation from the AV output device at the wireless center and causing the tuner section to perform the channel scan based on the input operation.**” As to the second step of the method, “[2] **collecting at the wireless center, based on a result of the channel scan, channel identification information including skip information indicative of whether or not a station has been registered for each channel...**,” is taught by the automatic channel scan taught by Fig. 3 and col. 3/line 39—col. 4/line 18 of Hakamada as analyzed above. The limitation that “**...the channel identification information serving as a reference for the AV output device to generate a direct command to cause the tuner section to directly select a channel identified by an up-down channel selection at the channel input section,**” is taught by the channel determinator of Trovato which is located in the wireless display apparatus of Uchida and references the transformation table comprising channel skip information taught by Trovato and Hakamada, stored in the memory of the wireless display apparatus of

Uchida (as analyzed above). As to the third step of “[3] **transmitting the channel identification information wirelessly to the AV output in one transmission from the wireless center,**” Fig. 5 of Uchida teaches a method by which that the wireless display apparatus converts remote control inputs into corresponding system commands and wirelessly transmits said control signals to the base device.

**Claims 1 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miura et al. (US Pat. No. 6,996,837) and further in view of Trovato et al. (US Pat. No.: 6,445,306).**

As to claim 1, Miura teaches the recited “**wireless center** (*master terminal 1, Fig. 1 and 2*) **having a tuner section for performing channel selection** (*see TB, Fig. 1 and 2 and col. 1/lines 52-62*) and **a first transmitting/receiving section for transmitting/receiving broadcast information of a channel selected by the tuner section and other data (*RT, Fig. 1 and 2*).” Miura further teaches the recited AV output device having “**a display section** (*Fig. 1, TV 5*), **a channel selection input section for receiving an input operation causing the tuner section to perform channel selection (*Fig. 3, Remote Control Receiver RT10*), and **a second transmitting/receiving section capable of receiving the broadcast information and transmitting/receiving data wirelessly to/from the first transmitting/receiving section (*Fig. 3, slave terminal 2*).”******

However, Miura does not explicitly teach that the display apparatus contains the recited “...[4] **a first channel identification information memory section for storing**

**channel identification information being available for identifying a channel selected by the up-down input operation.”** Further, while Miura teaches that the slave terminal receives remote control inputs, converts said inputs into corresponding system commands, and wirelessly transmits said control signals to the base device, Miura does not explicitly teach that the command conversion section converts **“the up-down input operation for a channel selection to a direct channel selection command that is transmitted to the wireless center,”** as recited.

In an analogous art, Fig. 3 of Trovato teaches a system comprising a plurality of lists 251-3 identifying programs and their corresponding channels and a channel determinator 260 that determines what channel to tune in response to a channel up/down input. Specifically, Trovato teaches:

When the user communicates an increment or decrement command 201, by activating, for example, the increment control 101...The channel determinator 280 determines the channel number 281 corresponding to the selected entry and communicates this number to the appliance 150 to effect the selection of this channel...The channel determinator 280 may merely extract a channel number 281 from the entry in the list. Alternatively, if the entry in the list contains a network identifier, such as NBC, CNN, and so on, the channel determinator 280 also includes a transformation table for transforming the network identifier to a channel number 281 for use by the appliance 150. (col.6/40-58)

The lists and transformation table taught by Trovato are equivalent to the recited first channel identification memory and the channel determinator performs the equivalent function of the recited command conversion section. Regarding the limitation that the command conversion section converts an up/down channel selection command to a direct channel selection command, Trovato teaches:

[w]hen the user enters an increment/decrement command 201, the remote control 100 *[comprising said channel determinator]* extracts the next or prior channel number from the selected list and communicates the channel number directly to the channel selector 110, equivalent to the user explicitly entering this channel number on a conventional remote control 100" (col. 7/9-14).

Trovato further teaches: "[a]s would be evident to one of ordinary skill in the art, the functional blocks of FIG. 3 may be located in the channel selector 110, in the remote control 100, or distributed between the channel selector 110 and the remote control 100" (col. 6/59-63). As Miura teaches that the slaver terminal device receives and transmits control signals from remote control 2A to the master terminal 1, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Miura's slave terminal to comprise the functional blocks of Fig. 3, as taught by Trovato, such a modification being a combination of known elements that would have yielded predictable results to one of ordinary skill in the art at the time of the invention. This would have been desirable as one of ordinary skill in the art at the time of the invention would recognize that performing said channel determination at the wireless device would have reduced processing time and bandwidth.

As to claim 17, the recited remote controller is explicitly taught by Miura (*see Fig. 1, remote control 2A*).

**Claims 13, 15, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miura et al. (US Pat. No. 6,996,837) and Trovato et al. (US Pat. No.: 6,445,306) as applied to claim 1 above, and further in view of Hakamada et al. (US Pat. No.: 4,870,492).**

As to claims 13 and 15, the rejection of claim 1 over Miura in view of Trovato is incorporated herein. As to claim 13, the recited first step of,

[1] collecting, based on a result of the channel selection performed by the tuner section, channel identification information including skip information indicative of whether or not a station has been registered for each channel and transmitting the channel identification information to the AV output device wirelessly

is equivalent to the automatic channel scan taught by Fig. 3 and col. 3/line 39—col. 4/line 18 of Hakamada. As analyzed above, since the wireless display apparatus taught by Miura does not have a tuner, it would have been obvious to one of ordinary skill in the art at the time of the invention that the this channel scan could be conducted by the base unit of Miura's system and that the channel identification information would be transmitted from the base device to the display device to be stored in the memory **132-4** of the display device.

As to the second recited step:

[2] storing the transmitted channel identification information in the memory section, detecting, responsive to an up-down input operation in the channel selection input section, a channel identified with reference to the channel identification information stored in the memory section, generating a direct channel selection command for selecting the identified channel, transmitting the direct channel selection command to the wireless center side wirelessly and causing the tuner section to directly perform channel selection without having to decode and convert an up-down channel selection command, received by the wireless center from the AV output device and which is not a direct channel selection command, to a direct channel selection command,

the transformation table comprising channel skip information taught by Trovato and Hakamada which is located at the slave terminal of Miura (as analyzed above) performs the recited storing transmitted channel identification information in the

memory. The recited detecting a channel identified with reference to the channel identification information and generating a direct channel selection are performed by the channel determinator of Trovato as cited above w/r/t claim 1.

As to claim 15, the rejection of claim 13 is incorporated herein. Miura (*col. 1/lines 52-62*) teaches the first step of “[1] **wirelessly receiving the input operation from the AV output device at the wireless center and causing the tuner section to perform the channel selection based on the input operation.**” As to the second step of the method, “[2] **collecting at the wireless center, based on a result of the channel selection, channel identification information including skip information indicative of whether or not a station has been registered for each channel...**,” is taught by the automatic channel scan taught by Fig. 3 and col. 3/line 39—col. 4/line 18 of Hakamada as analyzed above. The amended limitation that “...**the channel identification information serving as a reference for the AV output device to generate a direct command to cause the tuner section to directly select a channel identified by an up-down channel selection at the channel input section,**” is taught by the channel determinator of Trovato, which is located in the slave terminal of Mirura and references the transformation table comprising channel skip information taught by Trovato and Hakamada, stored in the located at the slave terminal of Miura (as analyzed above). As to the third step of “[3] **transmitting the channel identification information wirelessly to the AV output in one transmission from the wireless center,**” col. 1 of Miura (cited above) teaches that the slave terminal transmits the remote control command to the master terminal.

As to claims 18 and 19, the recited remote controller is explicitly taught by Miura  
(see Fig. 1, remote control 2A).

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RYAN STRONCZER whose telephone number is (571)270-3756. The examiner can normally be reached on 7:30 AM - 5:00 PM (EDT), Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian T. Pendleton can be reached on (571) 272-7527. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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